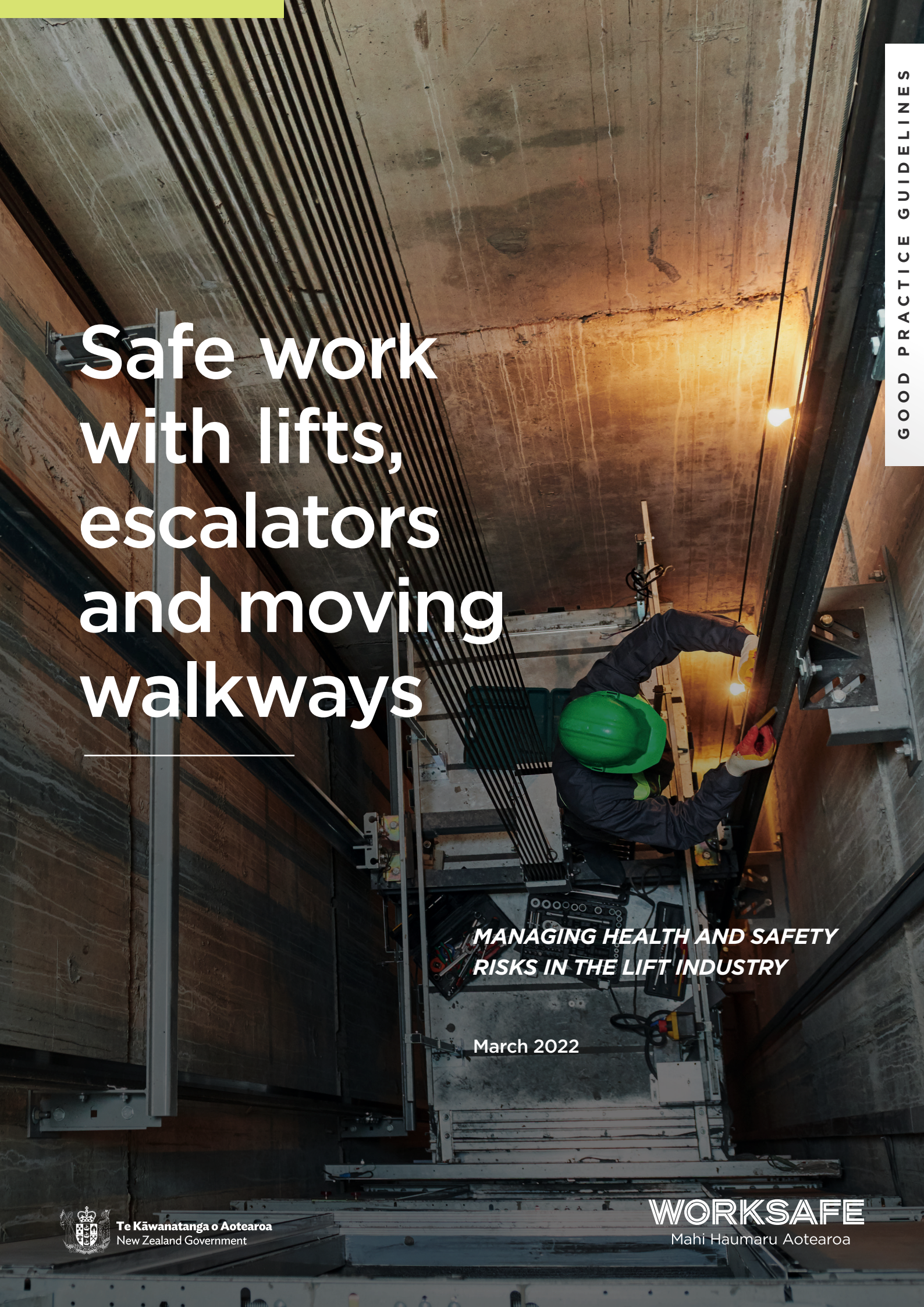

GOOD PRACTICE GUIDELINES

Safe work with lifts, escalators and moving walkways

MANAGING HEALTH AND SAFETY RISKS IN THE LIFT INDUSTRY

March 2022

Te Kāwanatanga o Aotearoa
New Zealand Government

WORKSAFE
Mahi Haumaru Aotearoa

Good practice guidance for managing health and safety risks in the lift industry.

ACKNOWLEDGEMENTS

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Safe work with lifts, escalators and moving walkways

KEY POINTS

- There are clear risks with work involving lifts, escalators and moving walkways.
- Serious injury and death can result if these risks are not identified and managed.

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Definitions

These guidelines use ‘must’ and ‘should’ to indicate whether an action is required by law or is a recommended practice or approach.

TERM	DEFINITION
Must	Legal requirement that has to be complied with
Should	Recommended practice or approach

Where these guidelines refer to a ‘competent person’, this means a person who:

- has the relevant knowledge, experience and skill to carry out work with lifts, escalators or moving walkways using appropriate techniques and procedures, and
- has a relevant qualification proving that they have the knowledge, experience, and skill required, or their business has evidence (such as training records) demonstrating that the person has the required knowledge, experience, and skill.

For definitions of industry-specific terms, refer to the relevant standards.

Legislation related to these guidelines

These guidelines summarise legal requirements under the following legislation:

- Health and Safety at Work Act 2015 (HSWA)
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (the GRWM Regulations)
- Health and Safety in Employment Regulations 1995 (the HSE Regulations)
- Electricity (Safety) Regulations 2010
- Health and Safety at Work (Hazardous Substances) Regulations 2017
- Health and Safety at Work (Asbestos) Regulations 2016

There may be other legislation you need to consult, such as the Building Act 2004, but this is out of scope of these guidelines.

1.0
What is this guidance about?

IN THIS SECTION:

These guidelines describe good practice for work involving lifts, escalators or moving walkways.

These guidelines provide good practice advice on how to identify and manage the health and safety risks associated with work in the lift industry.

These guidelines should be used alongside the manufacturer's health and safety recommendations, processes, practices, and procedures.

1.1 Who are these guidelines for?

These guidelines are for a person conducting a business or undertaking (PCBU). In the lift industry, the PCBU is likely to be a company. In these guidelines, 'you' means the PCBU.

The information is also relevant to workers in the lift industry. Workers can refer to these guidelines when planning or carrying out work, and when they are contributing to work health and safety decisions.

These guidelines also include some information for building owners about their responsibilities under the Health and Safety at Work Act 2015 (HSWA).

1.2 What do these guidelines cover?

These guidelines focus on work involving lifts, escalators or moving walkways. This work may include installation, servicing, maintenance, modernisation, decommissioning, and replacement.

These guidelines do not cover temporary installations (such as construction site elevators), cable cars or passenger ropeways.

2.0
What do you need to know first?

IN THIS SECTION:

There are health and safety requirements for PCBUs to meet.

2.1 What are key health and safety requirements to be aware of?

HSWA requires that all risks, including risks associated with lift industry work, must be managed so far as is reasonably practicable.

- Appendix 1 sets out the work health and safety duties that duty holders must comply with.
- Appendix 2 outlines what to consider when deciding what is reasonably practicable.

Work in the lift industry must also comply with all relevant regulations, including but not limited to:

- the Health and Safety in Employment Regulations 1995 (the HSE Regulations), and
- the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (the GRWM Regulations).

What are the duties of upstream PCBUs?

A PCBU in the supply chain (upstream) also has a duty to ensure, so far as is reasonably practicable, that the work they do or the things they provide to other workplaces do not create health and safety risks.

An upstream PCBU is a business that:

- designs plant, substances, or structures
- manufactures plant, substances, or structures
- imports plant, substances, or structures
- supplies plant, substances, or structures
- installs, constructs or commissions plant or structures.

Upstream PCBUs have additional duties (see Appendix 5). In the lift industry, upstream PCBUs include lift manufacturers and manufacturers of products used to fix and install lifts and escalators, such as solvents or degreasers.

Upstream businesses are in a strong position to eliminate or minimise risk. They can influence and sometimes eliminate health and safety risks through designing, manufacturing, importing or supplying products that are safe for the end user.

Good design, for example, can result in significant reductions in work-related ill-health and injuries, as well as enhancing the health, wellbeing and productivity of workers.

A Health and Safety by Design approach focuses on the whole lifecycle. This means choosing safer and healthier options at every stage of a project, from the initial concept design through to decommissioning and disposal. It is often cheaper and more practicable to eliminate risks during the design or planning stage.

What are overlapping duties?

More than one PCBU can have a duty in relation to the same matter (overlapping duties). When you and other PCBUs have overlapping duties, this means that the duties are shared between you. This might happen in a shared place of work, such as an office building with multiple tenants where lift maintenance is being carried out.

Example

A finance company leases a multi-storey office block from a building owner. Several lifts operate in the building. The building owner contracts Wrikerhen (a maintenance contractor) to maintain and repair the lifts.

PCBUs involved

The building owner is a PCBU. The building owner manages and controls the building and has a duty to ensure people can safely enter and exit the building, and that the building is without risk to people.

The finance company is a PCBU and has health and safety duties towards its workers and clients visiting its offices.

Wrikerhen is a PCBU and has health and safety duties towards its workers and other people at its workplace.

The PCBUs have overlapping duties

The PCBUs have overlapping duties and must work together to ensure the safety of workers, other people in the workplace, and other people in the vicinity of any work carried out. The PCBUs must consult, coordinate and cooperate with each other to manage shared risks.

The lifts in the building need to be maintained. Before lift maintenance begins, the building owner consults Wrikerhen and the finance company. This is so that all PCBUs know about the work and what they each need to do to ensure the safety of people in the building, including:

- identifying the best time for the work to be done
- putting up barriers around the work area and
- discussing what information the finance company will give to its workers and clients.

As the work proceeds, the finance company tells the building owner and Wrikerhen about any concerns or incidents so they can review them and make any changes needed.

The finance company learns that Wrikerhen had not fixed a faulty barrier near the Level 5 meeting rooms, even though Wrikerhen had been told about it.

As this faulty barrier could potentially harm clients:

- workers were notified of the faulty barrier and told to use alternative lifts at the rear of the building
- the finance company decided to hold all client meetings on the ground floor until the barrier was fixed.

For more information, see Appendix 3.

When must you engage with your workers?

You must engage and consult with workers on work health and safety matters, so far as is reasonably practicable. This includes when identifying, managing and monitoring risks related to lift industry work.

For more information, see Appendix 4.

What emergency plans must you have in place?

Your workplace must have a written emergency plan telling people what to do in an emergency. The plan should include information about how to evacuate the site and how to notify emergency services.

When preparing an emergency plan, you must consider the size and location of the worksite, the number and composition of workers, the nature of the work and its risks, and workers' views.

For more information, see our guidance Emergency plans

When must you notify WorkSafe New Zealand?

You must notify us if any of the following events arise from work that your business is responsible for:

- a death
- a notifiable illness or injury (a specified serious work-related illness or injury)
- a notifiable incident.

To notify us:

- ring 0800 030 040, or
- complete the online notification form

For more information, see our guidance What events need to be notified?

When can workers cease work?

A worker can stop or refuse to carry out work if they believe that the work would expose them or another person to a serious health and safety risk arising from immediate or imminent exposure to a hazard.

A worker who has stopped work must:

- as soon as possible, notify the PCBU that they have ceased work and
- remain available to carry out suitable alternative work.

WHAT IS ALTERNATIVE WORK?

A PCBU can offer a worker alternative work until they can resume their normal duties. The work must be safe, appropriate for the worker to carry out, and within the scope of the worker's employment agreement or contract.

WHAT CAN YOUR HEALTH AND SAFETY REPRESENTATIVES DO?

A trained Health and Safety Representative (HSR) can direct a worker to cease work if they reasonably believe that carrying out the work would expose the worker, or any other person, to a serious health or safety risk.

The HSR must consult with the PCBU about the issue before giving the direction unless the risk is serious and immediate. In this case, the HSR can direct the worker to cease work immediately and consult afterwards.

For more information, see our guidance Ceasing work

2.2 What standards should you be familiar with?

The main standards applying to lift industry work include but may not be limited to:

- *NZS 4332 Non-domestic passenger and goods lifts*
- *NZS 4334 Platform lifts and low-speed lifts*
- *AS/NZS 3000:2007 including Amendment 1 and 2 Electrical installations* (known as the *Australian/New Zealand Wiring Rules*)
- *EN 81 series* – published by the European Committee for Standardisation.

3.0 How can you manage risk?

IN THIS SECTION:

There are clear risks with work involving lifts, escalators and moving walkways.

Serious injury and death can result if these risks are not identified and managed.

3.1 What are the main risks for workers?

Risks to health and safety arise from people being exposed to a hazard (a source or cause of harm).

Workers could be harmed by (including but not limited to):

- falling from height
- being struck by falling or moving objects
- being crushed (for example, between the lift car and the elevator shaft)
- being exposed to harmful airborne contaminants (such as asbestos, fumes or vapours)
- working alone
- being exposed to excessive noise
- working in inadequate lighting
- being exposed to electricity
- having inadequate information, supervision, training and instruction to do the task safely.

There could also be other environmental and site-specific risks such as those arising from working in a confined space.

Safe work practices

Appendix 10 describes safe work practices for working in the lift shaft, in the lift pit, and in the lift machine room.

Appendix 11 describes safe work practices for working on an escalator or moving walkway, and working in the machine room.

The information in Appendices 10 and 11 should be read together with the related content in this section of these guidelines to ensure that all risks are identified and managed.

What approach can you take to manage risk?

The following sections focus on many of the main risks faced by workers.

> You must first try to **eliminate** a risk if this is reasonably practicable.
>
> If it is not reasonably practicable to eliminate the risk, it must be **minimised** so far as is reasonably practicable.

You can use the hierarchy of control measures (Figure 1) to work out the most effective control measures to use.

For more information, see Appendix 6.

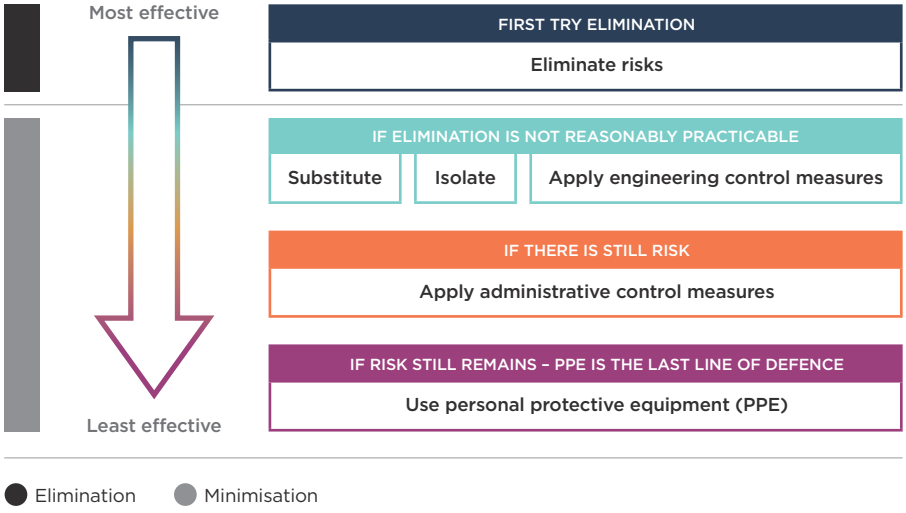


FIGURE 1: Hierarchy of control measures

Multiple control measures may be needed to deal with a given risk.

Some of the risks outlined in these guidelines must be managed using the prescribed risk management process described in our General risk and workplace management – Part 2 guidelines

This is referred to where relevant.

Workers need to be mentally and physically alert at work. Impairment can affect workers' ability to work safely and may lead to an increase in incidents and injuries.

For more information about fatigue and impairment, see Appendix 7.

We strongly recommend that a competent person carries out a site safety assessment (see Appendix 8) to identify risks before work starts, during the planning phase.

If you have carried out work at the same site previously, check whether there have been changes at the site that might affect health and safety, including any new risks.

3.2 How can you manage the risks from working at height?

Workers can be seriously injured or die if they fall when working at height.

'Working at height' means working in a place where a person is at risk of falling from one level to another. For example, work that takes place:

- above the ground level or floor level
- in an area where a worker could fall from an edge, through an opening, or through a fragile surface
- next to a hole or other opening at ground level.

What are the risks from lifting and rigging?

Lifting loads with rigging generally involves working with loads at height. Rigging refers to the use of mechanical load-shifting equipment and associated gear to move, place or secure a load.

Work that might involve lifting and rigging may include installation, major maintenance, refurbishment, decommissioning of a lift car within a lift shaft, lift motor room work (such as changing drive motors), and replacing lift ropes.

The main risks during lifting and rigging include, but are not limited to:

- workers falling from height and being harmed, and
- suspended loads falling and harming workers (see Section 3.3 of these guidelines).

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Worker falls from height	– no edge protection or other barriers in place – no handrails or guardrails – fragile surface, such as the lift car top, unable to support worker's weight – worker unable to clearly see environment, due to inadequate lighting, or power cut – no restraint or fall arrest system in place.

TABLE 1:
What could go wrong – working at height

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

A combination of control measures may be needed. Control measures such as a safety harness will not prevent a fall, but they may minimise harm.

ELIMINATING RISK

The most effective way to protect workers from the risk of falling is to eliminate the need to work at height.

Consider how the work could be carried out without exposing workers to the risk of falling. Elimination can often be achieved at the design, construction planning and tendering stages. For example, by building structures at ground level and lifting them into position when they are completed.

Make sure that any surfaces or materials that workers could walk on can:

- support a person's weight, and
- can also support the weight of any equipment or materials the person may be carrying.

Other control measures to manage the risk of a fall from height include:

- working from ground level using long-handled tools
- covering all holes or openings.

Identify and clearly mark access routes so that workers can avoid passing near fragile material such as glass or other surfaces that would not support their weight if they fell.

MINIMISING RISK

If elimination is not practicable, then consider how to minimise the risk.

ISOLATION

The risk of a fall can be reduced by using one or more of these control measures to isolate workers from the risk:

- edge protection, such as a guardrail system on top of a lift car
- a guard-railed work platform such as a scaffold (see scaffolding information below) or elevating work platform
- a barrier to restrict access (such as access to a lift shaft)
- a handrail
- a total restraint system (such as an anchored full-body harness) that prevents the worker from getting too close to an edge they could fall from.

MINIMISE THE DISTANCE AND IMPACT OF A FALL

If elimination and isolation are not practicable, minimise the likelihood of harm resulting from a fall by using one or more of these control measures:

- a fall arrest system designed to support and hold a worker if they fall
- a work positioning system that uses a harness under tension to support the worker
- a safety net or soft-landing system to minimise the distance and impact of a fall
- an industrial rope access system.

For more information, see our guidance:

- Working at height
- Working at height in New Zealand
- Load-lifting rigging

Scaffolding

Scaffolding may be needed during installation, major maintenance, refurbishment, or decommissioning of a lift car within a shaft. It is sometimes used to support a temporary edge-protection system.

The risks of work involving scaffolding include falls from height, being hit by a falling object, manual handling injuries, slips and trips, structural collapse, and electric shock.

Installation

If a worker could fall five metres or more

Scaffolding (where there is a risk that a worker will fall five metres or more):

- must be installed by a scaffolder who holds an appropriate certificate of competence
- must be notified to WorkSafe New Zealand 24 hrs before erection or dismantling: https://forms.worksafe.govt.nz/hazardous-work-notification

If a worker could fall less than five metres

Scaffolding (where there is a risk of a worker falling less than five metres) should be installed by a competent person who has acquired the knowledge and skills to safely install scaffolding through training, qualification, or experience (or a combination of these). Holding a relevant NZQA registered unit standard is one way to demonstrate competency.

Changes to scaffolding

Any changes to scaffolding after installation should only be made by a competent person.

For more information, see our good practice guidelines Scaffolding in New Zealand

3.3 How can you manage the risks from falling objects?

Every year workers in New Zealand are killed when they are struck by falling objects.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Object falls from height, injuring worker	– no toe boards or similar protection installed – insecure loads placed on elevated work areas – tools and equipment not tethered – materials not stored securely – no gantry or protective screen – safety helmet not worn – small gaps in work platforms allow objects to fall through – small objects fall through mesh.

TABLE 2:
What could go wrong – being struck by falling object

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

- Regulation 24 of the GRWM Regulations specifies your duty to manage risks associated with working under raised objects.
- Regulation 25 of the GRWM Regulations specifies your duty to manage risks associated with objects that are reasonably likely to fall on and injure a person.

You must follow the prescribed risk management process described in our General risk and workplace management – Part 2 guidelines to manage these risks.

You must first try to eliminate the risk so far as is reasonably practicable.

- If you cannot eliminate the risk, you must minimise the risk by providing and maintaining a safe system of work that includes measures for preventing an object from falling freely so far as is reasonably practicable.
- If it is not reasonably practicable to prevent the object from falling freely, use a system to arrest the fall so far as is reasonably practicable.

If it is not reasonably practicable to prevent the object from falling freely or to use a system to arrest the fall, an exclusion zone that persons are prohibited from entering must be provided.

Before starting work, always check whether objects such as equipment, materials, tools or debris (including a person) could fall onto a worker. If so, plan how to carry out the work without exposing workers to that risk.

To reduce the chance of being struck by a falling object:

- work should not take place above or below another person
- prevent access to the lift shaft, so that objects or people cannot fall down it
- do not leave tools on top of divider beams
- remove parts, tools and products from the top of the lift car when work is complete
- remove miscellaneous objects from inside the lift shaft.

HOW CAN EDGE PROTECTION BE USED TO MANAGE THE RISKS?

Edge protection can prevent objects or materials from falling and harming a worker. Use edge protection in areas such as:

- perimeters of workspaces
- openings
- surfaces with brittle material that cannot safely support the weight of objects or materials.

Examples of edge protection include:

- a proprietary (engineered) system
- guardrails or other physical barriers, such as toe boards
- scaffolding that supports a temporary edge protection system (see Section 3.2 of these guidelines for more information about scaffolding requirements). The scaffolding provides an additional level of protection.

Other control measures that could be used to eliminate or minimise risk include:

- putting up warning signs
- tethering tools and equipment
- using magnetic trays for fastenings and other materials
- storing materials and equipment securely
- installing a 'catch screen' to contain falling debris
- erecting a gantry or a protective screen over high-volume or public areas
- preventing the public from entering the area
- using safety observers.

Personal protective equipment (PPE) is the least effective control measure, and should only be used when other control measures alone cannot adequately manage the risk.

Note on lifting and rigging

Lifting loads with rigging generally involves working with loads at height. The main risks are workers being harmed from falling from height or from suspended loads falling (for more information, see Section 3.2 of these guidelines).

For more information, see our guidance:

- Working at height in New Zealand
- Working at height
- Load-lifting rigging

3.4 How can you manage the risks from machinery?

Machinery-related harm could include crushing, entanglement, friction, abrasion, cutting, severing, shearing, stabbing, puncturing, impact, drawing-in, and trapping.

A worker can be seriously injured or killed when part of the worker's body is crushed or caught:

- between a fixed and a moving part
- between two moving parts
- between a moving part and a fixed structure – such as between a counterweight and the floor.

Workers are at risk from electrocution.

Workers could also be exposed to:

- airborne contaminants such as fumes and dust
- heat
- noise
- vibration.

The location of the machinery or plant could mean that workers need to work in a confined space. Workers are at risk from manual handling (lifting, carrying, repetition, pushing or pulling heavy loads). Unsafe systems of work could also put workers at risk.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Worker is crushed or trapped: **– between a fixed and moving part** **– between two moving parts** **– between a moving part and a fixed structure (such as between a counterweight and the floor).** **Worker is injured by friction or abrasion**	– no communication between people working in same area. For example: - another worker overrides controls - other workers not aware who is working in lift shaft – equipment failure or malfunction – equipment restarts suddenly after an unscheduled stop – unguarded machinery or other equipment – worker unable to reach or activate emergency stop switch – equipment not isolated or immobilised – inadequate training and supervision – inadequate emergency procedures – not enough overhead clearance – not enough clearance under moving lift car or other equipment – limb or other part of worker's body placed above, under, between or through moving parts – controls allow accidental starting of machinery – control not reset after use – variation in control buttons from site to site – no markings on control buttons, or worn or faded markings that are hard to see – inadequate lighting, glare or shadow – worker cannot see approaching lift car or other risks.
Clothing, jewellery or hair is entangled in machinery or lift doors	– chains or other jewellery worn – loose clothing not tucked in or fastened – hair not tied back or covered.
Worker receives electric shock	– hand-held appliances, light sources and other electrical equipment: - used without a residual current device (RCD) to protect against electric shock - used in wet and/or damp environments - not checked before use for damage or faults (such as exposed wiring, cracked casing) – using battery chargers in wet and/or damp environments – using damaged or faulty equipment, including cords or leads.

TABLE 3: What could go wrong – working with machinery

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

Always let other workers know when a lift car or other equipment is, or will be, moving up or down.

EMERGENCY STOP SWITCH

Emergency stop switches should comply with the requirements in the relevant standards. This may include:

- being conspicuously and permanently marked with the words 'Emergency Stop'
- having the emergency stop position clearly indicated.

MACHINE/EQUIPMENT GUARDING

Moving parts may need to be guarded. If appropriate guarding is not in place, you need to advise the building owner. As PCBUs, you need to work together to make sure that workers are protected.

A PCBU must, so far as is reasonably practicable, provide and maintain safe plant and structures. It is good practice to have an inspection and maintenance programme in place, and arrange for a competent person to regularly inspect, test and maintain machinery.

LOCKOUT AND TAGOUT PROCESS

Many workers in New Zealand have been killed or seriously injured when the machine they were servicing was turned on or restarted while they were working on it.

Machinery or other equipment that does not need to be operating should be:

- brought to a zero-energy state (completely de-energised), and
- locked out and tagged out from its power source(s).

Lockout

Lockout is the process of turning off machinery and applying a physical lockout device to its lockout point (for example, a disconnect switch, isolator switch, or circuit breaker). Types of lockout devices might also include padlocks, chains and hasps. More than one lockout device may be used to lock out machinery.

Tagout

Once machinery is locked out, it should be tagged out. This means a tag is attached to the machinery warning other workers that it is locked out and is not safe to use. Tags are sometimes called danger tags, restricted-use tags, or warning tags.

For a lockout to be safe and effective, it is critical to:

- shut down (isolate) all sources of energy to the machine, and
- release (de-energise) all the stored energy within the machine to prevent unplanned movement of machine parts that could cause injury.

You must make sure that workers who lock out and tag out machinery are trained in the correct procedure.

The lockout and tagout process is an administrative control measure, at the lower end of the hierarchy of control measures.

When you carry out a risk assessment, consider whether you can implement engineering control measures. Engineering control measures (such as interlocking guards) are higher in the hierarchy and considered to be more effective.

For more information, see our guidance:

- Keeping workers safe when servicing machinery
- Safe use of machinery
- Manual handling

Also see:

- Hazardous manual tasks (Safe Work Australia)
- Building Act

3.5 How can you manage the risks from hazardous substances and airborne contaminants?

A hazardous substance is any product or chemical with properties that are explosive, flammable, oxidising, toxic, corrosive or toxic to the environment.

Airborne contaminants can quickly build up to dangerous levels in small spaces such as lift pits. Workers may be exposed to toxic fumes or vapours when they are welding or using hazardous substances such as solvents or adhesives.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Unconsciousness, brain injury and/or death	– lack of oxygen – airborne contaminants build to a dangerous level in a small space – exposure to toxic fumes or vapours while welding – exposure to toxic fumes when using solvents or adhesives.
Fire or explosion	– gases, fumes or vapours come into contact with an ignition source (such as a welding spark or open flame).
Occupational asthma develops	– exposure to fumes, gases, dust or other substances.
Lung cancer or other serious lung disease	– exposure to asbestos (see Section 3.6 of these guidelines).

TABLE 4: What could go wrong – exposure to hazardous substances and airborne contaminants

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

Regulation 28 of the GRWM Regulations specifies a PCBU's duty to manage risks associated with substances hazardous to health.

You must follow the prescribed risk management process described in our General risk and workplace management – Part 2 guidelines to manage these risks.

In addition, the Health and Safety at Work (Hazardous Substances) Regulations 2017 set out the rules for work-related activities involving hazardous substances.

You must take into account:

- any related physico-chemical risks (for example, explosions, fire, corrosion)
- ignition sources that might ignite a flammable substance
- the risk and degree of exposure to the substance by those carrying out the work.

Everyone who works with and around hazardous substances must have the knowledge and practical experience to do so safely. You must make sure that workers:

- know of the hazardous substances in their work area
- are aware of the risks associated with each substance
- receive the training and supervision necessary to work safely with and around these substances.

SAFETY DATA SHEETS

Make sure you have an up-to-date safety data sheet (SDS) from your supplier for each hazardous substance in your workplace.

The SDS – or a condensed version of the key information – must be readily accessible to a worker at their workplace.

Some workers travel between workplaces because their work is carried out in more than one location. The SDS may be kept at your principal place of business provided that those workers can immediately obtain the key information from the SDS in an emergency, wherever the workers are working.

For more information, see our guidance What the Hazardous Substances Regulations mean for you

Exposure monitoring and health monitoring

Exposure monitoring measures and evaluates what your workers are being exposed to while they are at work.

Health monitoring is a way to check if the health of workers is being harmed from exposure to substances hazardous to health while carrying out work. It aims to detect early signs of ill-health or disease.

For more information, see our guidance Health and exposure monitoring

Risk assessment

Before work starts carry out a full risk assessment and ask a competent person for advice about how to manage the risks of airborne contaminants.

PPE should not be the first or only control measure considered. However, respiratory protective equipment (RPE) can protect workers from breathing in substances hazardous to health.

Warn workers and other people in and around areas where gases, fumes or vapours may be released.

For more information, see our guidance:

- Hazardous substances
- Hazardous substances risk management
- Fumes
- Confined spaces: planning entry and working safely in a confined space

3.6 How can you manage the risks from asbestos?

Lift shafts, pits and other areas of a building accessed by workers may contain asbestos or asbestos-containing materials (ACMs). A building constructed before 2000 is more likely to have asbestos or ACMs than a building constructed post-2000.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Exposure to asbestos fibres **Asbestos fibres are breathed in, lodge in the lungs and cause:** – **lung cancer** – **asbestosis** – **mesothelioma, or** – **other serious lung diseases.**	– lift shafts, pits, motor rooms and other areas of a building constructed before 2000 contain: - asbestos, or - asbestos-containing materials (ACMs) – asbestos or ACM deteriorates or is disturbed, and asbestos fibres are released and breathed in.
Work carried out in an area where asbestos is present or is likely to be present	– no Asbestos Management Plan in place (see this section of these guidelines for more information). When asbestos or ACM has been identified (or is likely to be present), the PCBU with management or control of the workplace must prepare an Asbestos Management Plan and review and revise it when necessary.
Workers exposed to asbestos because the Asbestos Management Plan is outdated	PCBU has not reviewed and revised the Asbestos Management Plan as required by law.
PCBU and workers unaware that an Asbestos Management Plan exists	PCBU has not asked if an Asbestos Management Plan exists: – when job is being planned – before workers arrive on the site.

TABLE 5: What could go wrong – exposure to asbestos

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

You must make sure that workers receive information, training and instruction about asbestos (as well as the safe use, handling and storage of any other hazardous substances workers will use or come across at work).

ASBESTOS-RELATED DISEASES

Most asbestos-related diseases are caused by exposure to asbestos fibres at work. Even a small job like drilling a hole could expose a worker to danger.

When asbestos or ACMs are disturbed or deteriorate, tiny asbestos fibres can be released.

The risk to health is low if the asbestos or ACM is in good condition and undisturbed.

SAFE WORK PRACTICES

Workers should protect themselves against asbestos, even on small jobs that do not seem to create much dust. See Appendix 9 for examples of safe work practices.

- If possible, plan the job so that no asbestos will be disturbed.
- If asbestos has to be disturbed, do not start work until having the right information and training to work safely.

Use the right PPE, such as suitable RPE. Not all masks will protect workers from asbestos – seek advice if unsure what type of RPE is suitable.

Regulation 53 of the Health and Safety at Work (Asbestos) Regulations 2016 specifies how asbestos waste and contaminated PPE must be contained and disposed of.

ADVICE FOR BUILDING OWNERS

Lifts, escalators and passenger walkways are under the control of the building owner. If the building owner knows – or can reasonably expect – that there is a risk of exposure to respirable asbestos fibres in their workplace, the building owner must make sure, so far as is reasonably practicable, that all asbestos or ACM is identified.

- The building owner must manage the risks if there is asbestos in any areas where workers will be working (for example, in the lift shaft).
- The building owner must confirm the condition of any asbestos that is identified. If the asbestos is friable and/or deteriorated, then it presents a risk. The risk must be managed so that maintenance or other work can be carried out safely. For example, a reasonably practicable step would be to remove any friable or deteriorated asbestos.
- The building owner must have a process for advising workers of any risks related to asbestos.
- Although it is the building owner's duty to manage risks, the building owner is likely to ask the building management company to advise workers that the risks exist, and to explain how these risks will be managed.
- A property manager may arrange maintenance on behalf of the building owner.

ASBESTOS REMOVAL

The building owner is likely to require the services of a licensed asbestos removal company if:

- asbestos needs to be removed because it is friable (in powder form, or able to be crumbled, pulverised, or reduced to a powder by hand pressure when it is dry) or
- renovations or demolition are planned.

OVERLAPPING DUTIES

When there is more than one PCBU with management and control of a workplace, you must work together with other PCBUs, so far as is reasonably practicable, by consulting, cooperating, and coordinating activities in relation to identification and management of asbestos.

ASBESTOS MANAGEMENT PLANS

When asbestos or ACM has been identified (or is likely to be present), the PCBU with management or control of the workplace must prepare an Asbestos Management Plan and review and revise it when necessary.

The workplace PCBU must make sure a copy of the Asbestos Management Plan is readily accessible to workers and their representatives, as well as to other PCBUs.

Our template can guide you through the process of preparing an Asbestos Management Plan.

For more information, see our guidance:

- Asbestos
- Management and removal of asbestos
- Respiratory protective equipment

3.7 How can you manage the risks from lone work?

Lone work increases the risk to a worker. If something goes wrong, there may be no-one around to help. The worker may be unable to contact emergency services.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
A lone worker is injured or becomes unwell – resulting in a serious illness or injury, or death	– effective ways to communicate have not been identified and/or provided – worker is in a location where cell phone coverage is unavailable or unreliable – worker does not have sufficient knowledge, experience and training to work alone – the training and/or induction process does not cover lone working and emergency procedures – inadequate risk assessment before work starts – no tracking system or method of making regular contact with base – no emergency procedures in place – no consideration of worker's level of health and fitness (for example, whether they are fit and healthy enough to work alone) – worker is more vulnerable than others and particularly at risk when they work alone (for example, they have a medical condition, pregnant, or a trainee) – use of equipment, machinery or tools that one person working alone cannot operate safely – no suitable arrangements in place for a worker whose primary language is not English to get help in an emergency.

TABLE 6: What could go wrong – lone work

Note: There may be risks that are not identified in this table. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

Regulation 21 of the GRWM Regulations specifies a PCBU's duty to manage risks associated with remote or isolated work. Lone work is considered to be isolated work.

If remote or isolated work is required, you must follow the prescribed risk management process described in our General risk and workplace management – Part 2 guidelines to manage these risks.

You must also provide a system for effective communication to and from the worker including during an emergency. How effective a system will be will depend on the risks faced by the worker.

LONE WORK RISK ASSESSMENT

First consider whether the work could be done using a buddy system instead.

If lone work is necessary:

- does the lone worker have sufficient knowledge, experience and training to work unsupervised?
- does the work involve equipment, machinery or tools that are difficult or unsafe for one person to handle on their own?
- does the work involve chemicals or other hazardous substances?
- does the work require working in a confined space?
- what is in place to make sure that the worker can communicate with others in an emergency?
- what other systems are in place to reduce the risk of working alone?

CONTROL MEASURES

If lone work is necessary, put in place a working alone system to monitor the worker and make sure they are safe. An emergency plan must always be in place in case help is required.

A working alone system could include:

- a lone worker app that monitors the worker and allows the worker to quickly and easily confirm that they are okay
- a reliable communication device (such as a satellite phone, cell phone, pager, or distress beacon) that allows the worker to raise an alarm
- regular scheduled contact with a supervisor or other nominated person at specified times. Trigger the emergency response plan if the worker fails to make contact or does not respond to scheduled contact.

Other control measures for lone or isolated work include:

- having a buddy system to eliminate or reduce the need to work alone
- training workers in emergency procedures, including what to do during natural disasters
- carrying appropriate supplies including suitable first aid equipment
- remote monitoring – such as a video camera linked to a monitoring system.

For more information, see our guidance:

- Lone working - what's the problem?
- General risk and workplace management – Part 2 (see Section 3.1 of these guidelines).

Also see:

- information from Employment New Zealand: Protecting employees who work alone
- Health and Safety Executive guide (United Kingdom): Protecting lone workers: how to manage the risks of working alone

3.8 How can you manage the risks from noise?

Noise at work can be harmful to hearing, but noise induced hearing loss is preventable if PCBUs put noise control measures in place.

Workers can be exposed to harmful noise in environments such as the machine room.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Hearing loss – temporary or permanent	– hair cells in the inner ear and/or the auditory neurological pathways are damaged by: - sudden loud noise - extended exposure to noisy machinery - hazardous substances that can damage hearing ('ototoxic substances), such as certain paints, paint thinners, and glues – check Safety Data Sheets for information.
Tinnitus – ongoing ringing or buzzing in the ears	– prolonged exposure to excessively loud noise – sudden loud noise – such as an explosion.
Reduced concentration	– constant noise.
Decreased workplace productivity	– noise that has a negative effect on productivity and engagement.
Decreased job satisfaction	– noise irritates workers.

TABLE 7: What could go wrong – exposure to noise

Note: There may be risks that are not identified in this table. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

PCBUs must manage the risk associated with noise at work. This includes:

- eliminating the noise, if reasonably practicable
- minimising the noise using substitution, engineering control measures, or administrative control measures (but only when elimination is not reasonably practicable)
- using hearing protection (but only when elimination or minimisation options are not reasonably practicable)
- monitoring noise levels, if reasonably practicable.

The potential for exposure to harmful noise varies depending on the nature of the workplace. When work is being planned, ask the building owner what noises your workers may be exposed to. This will help you to assess and manage the risk of workers being exposed to noise that could harm their hearing.

The most effective way to reduce noise levels at work is to remove the source of the noise. Consider how to change work processes so that hazardous noise can be eliminated.

Buying or hiring quieter tools and machinery is one of the most cost-effective ways of eliminating noise levels, because the cost of putting noise control measures in place can be avoided.

Ask suppliers for information about the likely noise levels in the environments where the tools or machinery will be used.

For more information, see our guidance:

- Noise
- Legal duties - managing noise risks at work
- How to manage work risks

3.9 How can you manage the risks from inadequate lighting?

Inadequate lighting can put workers at risk of serious injury or death if it means workers are unable to see properly. If emergency lighting is inadequate or missing, workers will not be able to evacuate safely during an emergency.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Injury or death (due to trip, fall, crush injury or other injury)	– risk not visible/recognised due to inadequate lighting – light bulbs or other light sources difficult to reach when replacement or maintenance is required.
Electric shock	– portable lights used in a damp or wet environment – changing light bulb while light is powered on – unsafe use of extension cords, frayed or damaged cords, or cords with loose connections – faulty lighting, electrical outlet, wiring, or light switch – exposed live parts – portable lights used without an RCD.
Eyestrain or other eye problems, migraine, headaches	– inadequate lighting strains the brain.
Neck ache, back ache or other joint aches	– poor lighting means workers use unsuitable postures to get closer to the task or to approach it from an inappropriate and/or difficult angle.
Fatigue	– eyes and brain are working harder under poor light.
Cut by broken bulb	– bulb not handled appropriately when being replaced/disposed of.
Worker overheats	– excessive heat generated by lighting.
Emergency lighting fails	– emergency lighting has not been tested regularly – battery failure – component failure.
Fire	– lighting too close to worker, equipment, combustible material or other object ignites and causes fire – bulb with incorrect rating overheats and ignites – faulty lighting, electrical outlet, wiring, or light switch ignites and causes fire – unsafe use of extension cords, frayed or damaged cords or cords with loose connections – overloading of an Electrical Portable Outlet Device (EPODs – also called multi-boxes) – note that EPODs should not be used (see *How can you manage the risks?* below).

TABLE 8: What could go wrong – inadequate lighting

Note: There may be risks that are not identified in this table. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

Workplace emergency lighting needs to meet the standards set out in the *New Zealand Building Code*.

Regulation 10 of the GRWM Regulations specifies a PCBU's duty in relation to general workplace facilities. This includes ensuring, so far as is reasonably practicable, that lighting is suitable and sufficient.

You must ensure, so far as is reasonably practicable, that there is suitable and sufficient lighting to enable:

- each worker to carry out work without risks to health and safety
- people to move within the workplace without risks to health and safety and
- safe evacuation in an emergency.

Regulation 12 of the GRWM Regulations specifies that a PCBU must make sure, so far as is reasonably practicable, that workplace facilities have enough lighting and that they are in good working order, clean, safe and accessible.

Provide sufficient lighting to ensure safe entry, exit and working conditions for people working in lift shafts, pits and machine rooms. Control switches should be located close to each access point to the area.

Lighting must adequately light up the work area. If the work area does not have fixed lighting installed, then an alternative source of illumination must be provided. For example, battery-powered torches, pole lights or battery-powered emergency lights.

In addition:

- All portable light sources (as well as appliances and other electrical equipment) should be supplied with electricity through an RCD that turns the power off in the event of electric shock.
- Consider using battery-powered flood lights and torches to eliminate the risk of electric shock.
- If the lighting requires cords, plugs, portable socket outlet assemblies (PSOAs) or RCDs then all equipment should be in good condition to prevent fires and electric shocks.
- Extension cords are intended for temporary use only. If a permanent power source is required where an extension lead is in use, ask a licenced electrician to install a power outlet.
- EPODs (multi-boxes) should not be used.
    - If the work area does not have enough power outlets for the equipment in use, ask a licenced electrician to install more.
    - If it is not reasonably practicable to install more power outlets, a PSOA may be used. The PSOA must comply with *AS/NZS 3012*.
- Protect all lighting from mechanical damage.

For more information, see our guidance:

- Electrical safety on small construction sites
- Workplace and facilities requirements
- General risk and workplace management – Part 1 (see Section 2.2 of these guidelines).

3.10 How can you manage electrical risks?

Workers are at risk of electric shock or electrocution.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Worker receives electric shock – resulting in serious injuries or death	– no warning signs in place to alert workers to exposed or concealed electrical power circuits – RCD not in use – fuses are incorrect size, type or capacity – fuse substituted or bypassed with a wire, nail or other conductor – safety circuit defeated or bypassed – live cables or exposed live parts are contacted – the work, the electrical appliances and/or the fittings do not meet the safety requirements of the Electricity (Safety) Regulations 2010 – unsafe use of microwaves, kettles and other domestic appliances on worksite – use of an EPOD (multi-box) – unsafe use of extension cords, frayed or damaged cords, or cords with loose connections – faulty lighting, electrical outlet, wiring, or switch – exposed live parts – failure of bonding elements.
Electrical equipment becomes unsafe	– equipment is damaged by harsh environments or working conditions, such as exposure to: - dust - water - chemicals - steam - oil - grease.
Electrical equipment becomes unsafe	– modifications to circuitry or software carried out by non-authorised or incompetent workers – changes not recorded and shared with workers – changes not clearly indicated inside control panel.

TABLE 9: What could go wrong – electrical hazards

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

Any work that involves electrical circuits and equipment must comply with all relevant regulations, including the Electricity (Safety) Regulations 2010.

PCBUs must provide all workers with the information, training, instruction and supervision they need to work safely – including people registered to undertake prescribed electrical work (PEW).

Workers should have:

- Electrical Workers Registration Board authorisation for any PEW that they are undertaking
- training in electrical safety, and
- the experience, knowledge and skills required for the work to be undertaken, or be directly supervised.

WARNING SIGN REQUIRED FOR PEW

The Electricity (Safety) Regulations 2010 require this sign to be in place when PEW is being carried out.

You must:

- provide suitable training on electrical risks on site, so that everyone knows how these risks should be eliminated or minimised
- work with other PCBUs to manage electrical safety risks:
  - talk with other PCBUs about how electricity will be supplied and used in areas where health and safety duties overlap
  - this will help to prevent any gaps in managing health and safety risks.

CONTROL MEASURES

Control measures that could be used to eliminate or minimise risk may include:

- putting warning signs in place to alert workers to exposed or concealed electrical power circuits
- treating all circuits as live unless it is confirmed that they are not
- following lockout and tagout processes when practicable (see Section 3.4 of these guidelines)
- before using electrical equipment, checking that it is safe to use and without risks to others
- ensuring power is supplied to electrical equipment through an RCD – see RCD information below
- using battery-powered tools and equipment
- protecting workers from electric shock when they are working on an electrical circuit by:
  - de-energising the circuit
  - ensuring covers and barriers are fitted
  - using safe electrical working practices in accordance with *AS/NZS 4836:2011*
- using extension cords that:
  - have the correct amperage rating
  - are suitable for the conditions of use and the location, and
  - are protected by an RCD
- making sure that fuses are the correct size, type and capacity
- removing and replacing any modified, worn or frayed electrical cords
- making sure that leads and cords are arranged, used and stored safely
- immediately disconnecting and removing faulty or damaged equipment. This includes equipment that:
  - has given someone a shock
  - fails testing or inspection
  - repeatedly blows a fuse, or trips a circuit breaker or RCD
- not substituting or bypassing a fuse with a wire, nail or other conductor.

INSTALL MORE POWER OUTLETS OR USE A PSOA

EPODs (multi-boxes) should not be used.

- If the work area does not have enough power outlets for the equipment in use, ask a licenced electrician to install more.
- If it is not reasonably practicable to install more power outlets, a PSOA may be used. The PSOA must comply with *AS/NZS 3012*.

RCDs

RCDs should be used with all portable tools and other electrical devices as required. All RCDs used to protect people should be rated nominally at 30ma or less.

An RCD constantly monitors the electric current flowing along a circuit. If an RCD detects a fault, it quickly disconnects the electricity supply in many situations where someone would otherwise receive a fatal electric shock.

An RCD provides a high level of personal protection. While RCD protection minimises the risk of serious electric shock, it does not eliminate that risk.

BATTERY-POWERED TOOLS OR EQUIPMENT

Using battery-powered tools or equipment may minimise risks associated with a mains electricity supply. Faulty leads, faulty RCDs and operation in wet conditions can also put workers at risk.

There is still a risk of electric shock from battery chargers that are plugged into the mains supply. Chargers are not weatherproof. They should only be used in a dry and dust-free environment.

WORK WITH OTHER PCBUs TO MANAGE ELECTRICAL SAFETY RISKS

All PCBUs (including contractors) working on the same site must, so far as is reasonably practicable, work together (consult, cooperate and coordinate activities) to manage electrical safety risks where they have the same health and safety duty.

- Talk with other PCBUs about how electricity will be supplied and used in areas where your health and safety duties overlap. This will help to prevent any gaps in managing health and safety risks.
- All contractors who use the electrical supply at a site must make sure their equipment is safe to use and without risks to others.
- All electrical equipment should be RCD-protected (see above).

Modifications to circuitry and software

Any modification to circuitry or software should follow the manufacturer's instructions.

If there are no manufacturer's instructions available, you should establish a certified design or control procedure for modifying circuitry and software.

The PCBU that modifies the equipment:

- should make sure that the person making the changes accurately records all changes to the circuitry or software
- should clearly indicate these changes (for example, on electrical schematic diagrams).

Note that modifications may void any type testing or manufacturer testing that has been undertaken on the equipment.

BYPASSING SAFETY CIRCUITS

Only fully trained and competent workers should use jumpers, bridges and shunts.

Only use jumpers, bridges or shunts to bypass (short out or defeat) a safety circuit if there is no other way to accomplish the task.

A bypass should be:

- immediately removed after the test is complete, and
- removed before the equipment is brought back into service.

JUMPERS

During maintenance, the lift car should be placed on slow/inspection speed before placing jumpers on door locks and safety circuits.

- Jumpers should be clearly visible.
- Limit the number of jumpers and who they are assigned to.
- Jumpers should be easy to identify by a serial number or other equivalent system of identification, including the date of placement.
- Attach a warning tag to each jumper in use, to alert other workers.
- Keep a list of the jumpers that are in use:
  - this list should operate as a 'sign in and out' system
  - match jumpers to the list after use to confirm that all jumpers have been removed.

The lift shaft door locks and the lift car door locks should not be jumped out at the same time.

Remove all jumpers:

- before transferring a maintenance or repair job to someone else
- before equipment goes back into service.

For more information, see our guidance:

- Electrical safety on small construction sites
- High voltage electrical installations
- Electricity (Safety) Regulations 2010: Risk categories and certification of prescribed electrical work
- Keeping workers safe when servicing machinery

Also see:

AS/NZS 3000:2007 including Amendment 1 and 2 Electrical installations (known as the *Australian/New Zealand Wiring Rules*).

3.11 How can you manage the risks from inadequate information, supervision, training or instruction?

Inadequate information, supervision, training and instruction can lead to injuries, ill-health or death. For example, if workers are not informed about appropriate and effective control measures to eliminate or minimise known work risks, or have not received the training and supervision necessary to work safely in particular environments or with specific tools or equipment.

What could go wrong?

WHAT COULD GO WRONG?	POSSIBLE CAUSES
Injuries, ill-health or death result from the actions of: - **untrained or poorly trained workers** - **inexperienced workers who are not adequately supervised.**	- workers are not adequately trained to carry out work tasks (for example, the training and/or induction process does not cover all the information workers need to know, such as on-site risks and appropriate control measures) - the training is not understood by workers – it does not suit their numeracy (number), literacy (reading/writing) or language skills. - workers have not undergone regular refresher training and their skills are declining or out-of-date - trainees, apprentices or other inexperienced workers are not adequately supervised, there is no supervisor responsible for monitoring their work and ensuring compliance with regulations and recommended practices.

TABLE 10: What could go wrong – inadequate information, supervision, training, and instruction

Note: There may be risks that are not identified in this section. You will need to identify and assess health and safety risks arising from your own work. You must engage with workers and their representatives when you are identifying risks and deciding how to eliminate or minimise those risks.

How can you manage the risks?

You must ensure, so far as is reasonably practicable, those who carry out lift industry work:

- either have adequate knowledge or experience of similar work so they are not likely to cause harm to themselves or other people, or
- are supervised by someone who has the relevant knowledge and experience, and
- are adequately trained in the safe use of all plant, objects, substances, or equipment the workers are or may be required to handle, as well as all PPE that the workers are or may be required to wear or use.

You must engage with workers when making decisions about how to provide information and training to them.

TRAINING TOPICS

Training may include, but is not limited to, these topics:

- company safety procedures
- electrical safety
- emergency plans
- first aid
- remote, isolated or lone work
- site safety
- use of specific equipment
- working at height
- working in confined spaces
- working with hazardous substances.

Some of these topics are covered elsewhere in these guidelines.

RESPONSIBILITIES WHEN WORKING WITH TRAINEES AND APPRENTICES

A fully trained and competent person must supervise a lift industry trainee or apprentice. Apprenticeship or licencing requirements may specify how long supervision is needed.

For more information, see our guidance: Providing information, training, instruction or supervision for workers

Appendices

IN THIS SECTION:

Appendix 1: Health and Safety at Work Act duties

The Health and Safety at Work Act 2015 (HSWA) is New Zealand's key work health and safety law.

All work and workplaces are covered by HSWA unless they have been specifically excluded. For example, HSWA does not apply to the armed forces in certain situations.

HSWA sets out the work health and safety duties that duty holders must comply with.

There are four types of duty holder under HSWA:

- a person conducting a business or understanding (PCBU)
- an officer
- a worker
- an 'other person' at the workplace.

Most duties under HSWA relate to **how** work is carried out. However some duties are linked to **where** work is carried out: the workplace.

A **workplace** is a place where work is being carried out or usually carried out for a business or undertaking. It includes any place where a worker goes or is likely to be while at work section 20 of HSWA

DUTY HOLDER	WHO THEY ARE?	EXAMPLES	WHAT ARE THEIR DUTIES?	FOR MORE INFORMATION
Person Conducting a Business or Undertaking (PCBU)	A person conducting a business or undertaking (PCBU) may be an individual person or an organisation	– a business – a self-employed person – partners in a partnership – a government agency – a local council – a school or university.	A PCBU has many duties. Key duties are summarised below. **Primary duty of care** section 36 of HSWA A PCBU must ensure, so far as is reasonably practicable, the health and safety of workers, and that other persons are not put at risk by its work.	Introduction to the Health and Safety at Work Act 2015 Appendix 2 of this guidance for an explanation of 'so far as is reasonably practicable'
	The following **are not** PCBUs: – officers – workers – other persons at a workplace – volunteer associations that do not have employees – home occupiers (such as home owners or tenants) who pay someone to do work around the home section 17 of HSWA		**Managing risks** section 30 of HSWA Risks to health and safety arise from people being exposed to hazards (anything that can cause harm). A PCBU must manage work health and safety risks. – A PCBU must first try to **eliminate** a risk so far as is reasonably practicable. This can be done by removing the source of harm – for example, removing faulty equipment or a trip hazard. – If it is not reasonably practicable to eliminate the risk, it must be **minimised** so far as is reasonably practicable.	Identifying, assessing and managing work risks Appendix 6 of this guidance
			Overlapping duties: working with other PCBUs section 34 of HSWA A PCBU with overlapping duties must, so far as is reasonably practicable, consult, cooperate and coordinate activities with other PCBUs they share duties with.	Appendix 3 of this guidance

DUTY HOLDER	WHO THEY ARE?	EXAMPLES	WHAT ARE THEIR DUTIES?	FOR MORE INFORMATION
			Involving workers: worker engagement, participation and representation Part 3 of HSWA A PCBU must, so far as is reasonably practicable, engage with their workers (or their workers' representatives) about health and safety matters that will directly affect the workers. A PCBU must have worker participation practices that give their workers reasonable opportunities to participate in improving health and safety on an ongoing basis.	Appendix 4 of this guidance
Upstream PCBU	A PCBU in the supply chain	– a designer – a manufacturer – a supplier – an importer – an installer, constructor, or commissioner.	**Upstream PCBU** sections 39–43 of HSWA An upstream PCBU must ensure, so far as is reasonably practicable, that the work they do or the things they provide to other workplaces do not create health and safety risks.	Appendix 5 of this guidance
Officer	A specified person or a person who exercises significant influence over the management of the business or undertaking section 18 of HSWA	– a company director – a partner or general partner – a chief executive.	**Officer** section 44 of HSWA An officer must exercise due diligence that includes taking reasonable steps to ensure that the PCBU meets their health and safety duties.	Introduction to the Health and Safety at Work Act 2015
Worker	An individual who carries out work for a PCBU section 19 of HSWA	– an employee – a contractor or sub-contractor – an employee of a contractor or sub-contractor – an employee of a labour hire company – an outworker (including homeworker) – an apprentice or trainee – a person gaining work experience or on work trials – a volunteer worker.	**Worker** section 45 of HSWA A worker must take reasonable care of their own health and safety, and take reasonable care that they do not harm others at work. A worker must cooperate with reasonable policies and procedures the PCBU has in place that the worker has been told about. A worker must comply, as far as they are reasonably able, with any reasonable instruction given by the PCBU so the PCBU can meet their legal duties.	Introduction to the Health and Safety at Work Act 2015
Other person at the workplace	An individual present at a workplace (not a worker)	– a workplace visitor – a casual volunteer (not a volunteer worker) – a customer.	**Other person at the workplace** section 46 of HSWA An 'other person' has a duty to take reasonable care of their own health and safety, and not adversely affect the health and safety of anyone else. They must comply with reasonable instructions relating to health and safety at the workplace.	Introduction to the Health and Safety at Work Act 2015

Appendix 2: So far as is reasonably practicable

section 22 of HSWA

Certain PCBU duties (the section 36–43 duties including the primary duty of care) must be carried out 'so far as is reasonably practicable'.

What to consider when deciding what is 'reasonably practicable'

Just because something is possible to do, does not mean it is reasonably practicable in the circumstances.

Consider:

- What possible actions can be taken to ensure health and safety?
- Of these possible actions, at a particular time, what is reasonable to do?

Think about the following questions.

WHAT IS KNOWN ABOUT THE RISK?

- How likely is the risk to occur?
- How severe is the illness or injury that might occur if something goes wrong?
- What is known, or should reasonably be known, about the risk?

WHAT IS KNOWN ABOUT POSSIBLE CONTROL MEASURES?

- What is known, or should reasonably be known, about the ways (control measures) to eliminate or minimise the risk?
- What control measures are available?
- How appropriate (suitable) are the control measures to manage the risk?
- What are the costs of these control measures?
- Are the costs grossly disproportionate to the risk? Cost must only be used as a reason to not do something when that cost is grossly out of proportion to the risk.

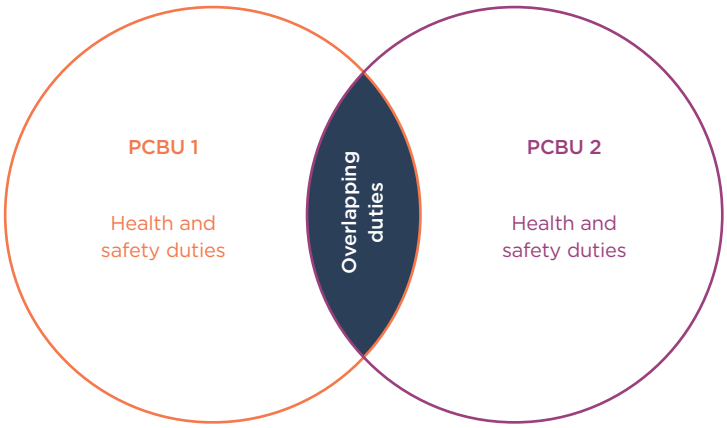
> While PCBUs should check if there are widely used control measures for that risk (such as industry standards), they should always keep their specific circumstances in mind. A common industry practice might not be the most effective or appropriate control measure to use.
>
> If PCBUs are not sure what control measures are appropriate, WorkSafe recommends getting advice from a suitably qualified and experienced health and safety professional.

For more information, see our guidance: Reasonably practicable

Appendix 3: Working with other PCBUs – overlapping duties

section 34 of HSWA

More than one PCBU can have a duty in relation to the same matter. These PCBUs have overlapping duties – this means that the duties are shared between them.



Duties regularly overlap:

- in a shared workplace (for example, a building site or a port) where more than one business has control and influence over the work on site.
- in a contracting chain, where contractors and subcontractors provide services to a head contractor or client and do not necessarily share the same workplace.

A PCBU must, so far as is reasonably practicable, consult, cooperate and coordinate activities with all other PCBUs they share duties with so that all PCBUs can meet their joint responsibilities.

A PCBU cannot transfer or contract out of their duties, or pass liability to another person.

However a PCBU can make an agreement with another PCBU to fulfil specific duties. Even if this occurs, all PCBUs are still responsible for meeting their legal duties.

Example

A local hotel contracts out housekeeping services to an agency. The hotel and agency both have a duty to ensure the health and safety of the housekeeping workers, so far as is reasonably practicable. This includes the duty to provide first aid facilities.

The agency reaches an agreement with the hotel – if their workers need first aid while working at the hotel they can use the hotel's first aid facilities.

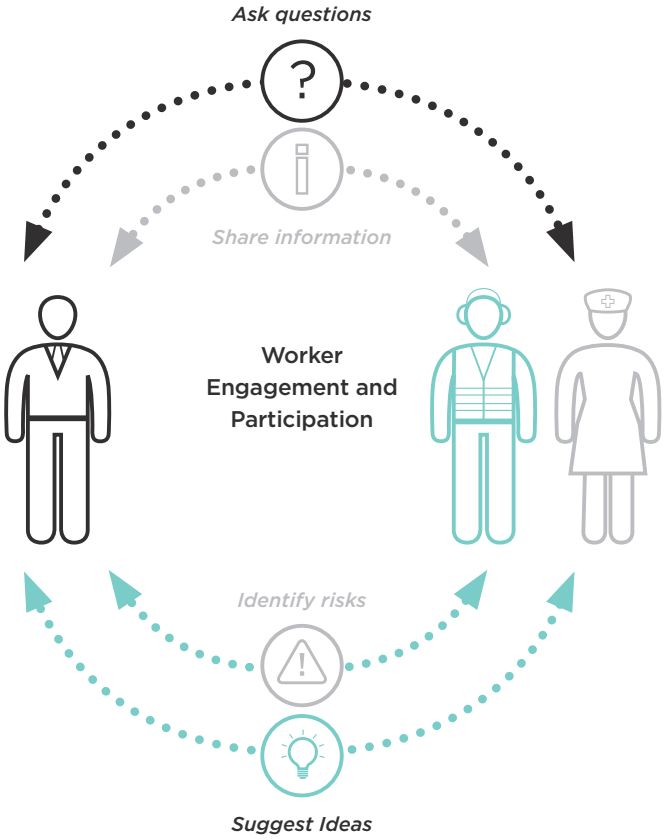
For more information, see our guidance: Overlapping duties

Appendix 4: Worker engagement, participation and representation Part 3 of HSWA

Engage with workers and enable their participation

A PCBU has two main duties related to worker engagement and participation:

- to engage with workers on health and safety matters that affect or are likely to affect workers, so far as is reasonably practicable, and
- to have practices that give workers reasonable opportunities to participate effectively in the ongoing improvement of work health and safety.



A PCBU can engage with workers by:

- sharing information about health and safety matters so that workers are well-informed, know what is going on and can contribute to decision-making
- giving workers reasonable opportunities to have a say about health and safety matters
- listening to and considering what workers have to say at each step of the risk management process
- considering workers' views when health and safety decisions are being made
- updating workers about what decisions have been made.

A PCBU must engage with workers during specified times, including when identifying hazards and assessing risks.

A PCBU must have clear, effective, and ongoing ways for workers to suggest improvements or raise concerns.

Worker representation

Workers can be represented by a Health and Safety Representative (HSR), a union representing workers, or a person that workers authorise to represent them (for example, a community or church leader, or another trusted member of the community).

HSRs and Health and Safety Committees (HSCs) are two well-established methods of participation and representation. If workers are represented by an HSR, worker engagement must also involve that representative.

For more information

WORKSAFE GUIDANCE

Good practice guidelines

Worker engagement, participation and representation

Interpretive guidelines

Worker representation through Health and Safety Representatives and Health and Safety Committees

Pamphlets

Worker representation

Health and Safety Committees

Health and Safety Representatives

Appendix 5: Upstream duties sections 39–43 of HSWA

A PCBU in the supply chain (upstream) also has a duty to ensure, so far as is reasonably practicable, that the work they do or the things they provide to other workplaces do not create health and safety risks.

An upstream PCBU is a business that:

- designs plant, substances, or structures
- manufactures plant, substances, or structures
- imports plant, substances, or structures
- supplies plant, substances, or structures
- installs, constructs or commissions plant or structures.

Upstream businesses are in a strong position to eliminate or minimise risk. They can influence and sometimes eliminate health and safety risks through designing, manufacturing, importing or supplying products that are safe for the end user.

Example

A worker using a badly designed or poorly manufactured saw may be at risk of injury. This risk should have been eliminated or minimised, so far as was reasonably practicable, by the designer or manufacturer.

For more information, see our website: worksafe.govt.nz

Upstream duties for designers section 39 of HSWA

A designer creates or modifies a design for plant, substances or structures that are to be used or operated, or could be used or operated, in a workplace.

A designer has a duty, so far as is reasonably practicable:

- to make sure the products they design do not create health and safety risks for the people that use them and those nearby
- to make sure the products they design have been tested so they are safe for use in a workplace
- to give the following information to those who will use the designed products:
  - the design's purpose or intended use
  - the results of any calculations or tests
  - any general and current relevant information about how to safely use, handle, store, construct, inspect, clean, maintain, repair, or otherwise work near the designed products.

These requirements apply across the product's entire lifecycle – from manufacture and construction, through to everyday use, decommissioning and disposal.

For more information, see our guidance: Health and safety duties for businesses that design products for workplaces

Upstream duties for manufacturers section 40 of HSWA

A manufacturer makes plant, substances or structures that are to be used, or could be used or operated, in a workplace.

A manufacturer has a duty, so far as is reasonably practicable:

- to make sure the products they manufacture do not create health and safety risks for the people that use them and those nearby
- to make sure the products they manufacture have been tested so they are safe for use in a workplace

- to give the following information to those that will use the manufactured products:
  - the purpose or intended use of each product
  - the results of any calculations and tests
  - any general and current relevant information about how to safely use, handle, store, construct, inspect, clean, maintain, repair, or otherwise work near the manufactured products.

These requirements apply across the product's entire lifecycle – from manufacture and construction, through to everyday use, decommissioning and disposal.

For more information, see our guidance: Health and safety duties for businesses that manufacture products for workplaces

Upstream duties for importers section 41 of HSWA

An importer imports plant, substances or structures that are to be used, or could be used or operated, in a workplace.

An importer is a business:

- that goods are imported **by**, or
- that goods are imported **for**.

Importation is another word for importing. Importation refers to the **arrival of goods** in New Zealand from a point outside New Zealand. These goods can arrive in any manner.

An importer has a duty, so far as is reasonably practicable:

- to make sure the products they import do not create health and safety risks for the people that use them and those nearby
- to make sure the products they import have been tested so they are safe for use in a workplace
- to give the following information to those who will use the imported products:
  - the purpose or intended use of each product
  - the results of any calculations and tests
  - any general and current relevant information about how to safely use, handle, store, construct, inspect, clean, maintain, repair, or otherwise work near the imported products.

These requirements apply across the product's entire lifecycle – from construction or assembly, through to everyday use, decommissioning and disposal.

Imported products must also meet all New Zealand regulatory requirements relevant to that product.

For more information, see our guidance: Health and safety duties for businesses that import products for workplaces

Upstream duties for suppliers section 42 of HSWA

A supplier supplies plant, structures or substances that may be used in a workplace.

A supplier has a duty, so far as is reasonably practicable:

- to make sure the products they supply do not create health and safety risks for the people that use them and those nearby
- to make sure the products they supply have been tested so they are safe for use in a workplace

- to give the following information to those who will use the supplied products:
  - the purpose or intended use of each product
  - the results of any calculations and tests
  - any general and current relevant information about how to safely use, handle, store, construct, inspect, clean, maintain, repair, or otherwise work near the supplied products.

These duties do not extend to the sale of second-hand plant sold 'as is'.

These requirements apply across the product's entire lifecycle – from construction or assembly, through to everyday use, decommissioning and disposal.

For more information, see our guidance: Health and safety duties for businesses that supply products for workplaces

Upstream duties for installers, constructors or commissioners of plant or structures section 43 of HSWA

An installer/constructor builds and/or assembles and installs plant and structures that may be used at a workplace. A commissioner performs adjustments, tests and inspections on plant and structures before they are used for the first time in a workplace.

An installer, constructor or commissioner has a duty, so far as is reasonably practicable, to make sure that the way the plant or structure is installed, constructed or commissioned does not create health and safety risks to the people that come into contact with it across the product's entire lifecycle – from construction or assembly, through to everyday use, decommissioning and disposal.

For more information, see our guidance: An additional health and safety duty for businesses that install, construct or commission plant or structures for workplaces

Appendix 6: Managing risk section 30 of HSWA

This appendix describes a general approach to managing risk. Certain risks identified in these guidelines **must** be managed using a prescribed risk management approach. See the relevant sections for details.

Risks to health and safety arise from people being exposed to a hazard (a source or cause of harm).

A PCBU must first try to **eliminate** a risk if this is reasonably practicable. If it is not reasonably practicable to eliminate the risk, it must be **minimised** so far as is reasonably practicable.

A PCBU must engage with workers and their representatives:

- when identifying and assessing risks, and
- when making decisions about how to eliminate or minimise the risks using appropriate control measures.

Follow the steps below to identify, assess and manage work health and safety risks.

STEP 1: IDENTIFY HAZARDS THAT COULD GIVE RISE TO WORK RISKS

With your workers, identify what could harm the health or endanger the safety of one or more workers or others (such as visitors, or bystanders).

STEP 2: ASSESS WORK RISKS

With your workers, identify and assess the risks arising from each work hazard. Ask:

- Who might be exposed to the hazard?
- What could happen?
  - How severe could the resulting injuries be?
  - How could people's health be affected?
  - How likely are these consequences?

Decide which risks to deal with immediately. For example, risks with potentially significant consequences such as serious injury or death, chronic ill-health, or those with a high likelihood of occurring.

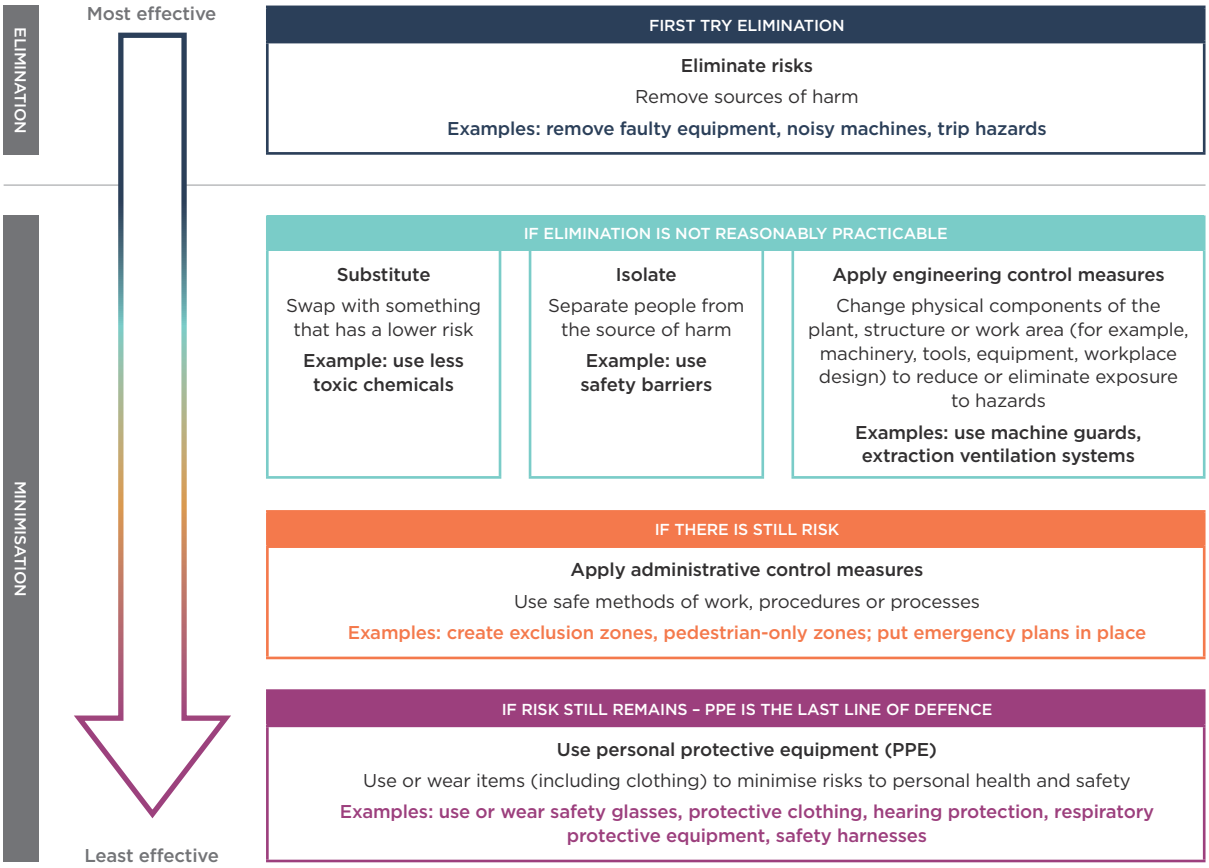
STEP 3: DECIDE HOW TO MANAGE EACH RISK

With your workers, decide how to manage work risks.

Multiple control measures may be needed to deal with a given risk. Give preference to control measures that protect many workers at the same time (for example, safety barriers, safety nets).

A PCBU can use the following hierarchy of control measures to work out the most effective control measures to use.

Hierarchy of control measures



First try to eliminate

First try to eliminate the risk, if this is reasonably practicable. This can be done by removing the source or cause of harm (such as faulty equipment, a noisy machine or a trip hazard).

Then try to minimise

If it is not reasonably practicable to eliminate the risk, the risk must be minimised so far as is reasonably practicable.

Minimise the risk using one or more of the following actions:

- substitute/swap with something that has a lower risk
- isolate the hazard by separating people from the source of harm
- apply engineering control measures (where physical components of the plant, structure or work area are changed to reduce or eliminate exposure to hazards).

If the risk still remains after taking one or more of the actions above, try to minimise the risk with administrative control measures (safe methods of work, procedures or processes).

If there is still risk, use personal protective equipment (PPE) to minimise the risk. PPE is the least effective control measure, and should only be used when other control measures alone cannot adequately manage the risk.

STEP 4: PUT CONTROL MEASURES IN PLACE

As soon as possible after a decision is made about the control measures, a PCBU should:

- put the control measures in place
- instruct and train workers (including new workers) about the control measures, including why it is important to use them and how to apply them.

STEP 5: REVIEW AND IMPROVE CONTROL MEASURES

Control measures should remain effective, be fit-for-purpose, be suitable for the nature and duration of the work, and be used correctly.

With your workers, regularly monitor control measures to confirm that the measures are effective.

You should review control measures:

- when a new risk is identified
- when there is a change at the workplace or to the work
- when workers or their health and safety representative ask for a review
- when there is evidence that control measures may not be working effectively to manage the risk (for example, when you receive monitoring results or a report following an incident investigation).

Use guidance from WorkSafe or others (for example, industry associations) to help to identify, assess, and manage risks, and review control measures. If you need help, WorkSafe recommends getting advice from a suitably qualified and experienced health and safety professional.

For more information, see our guidance: Identifying, assessing and managing work risks

Appendix 7: Fatigue and other impairments

Impairment at work can be caused by things such as:

- alcohol use
- distractions
- drugs (prescription or non-prescription)
- fatigue
- health conditions
- lack of sleep
- noise
- pressures such as tight or unrealistic deadlines
- stress
- working in extreme heat or cold.

We are concerned about people who are impaired at work and the potential impact on their health and safety, and that of others, regardless of how that impairment is caused.

If a PCBU has identified impairment as a risk, we expect them to manage that risk in a way that is proportionate to the task and level of risk identified.

When we visit a PCBU, we may look at whether risks associated with impairment are being managed effectively.

Work can affect health, and health can affect work. Workers can become unwell or develop poor health from their work environment and activities. Poor health or physical impairment can reduce a worker's ability to work safely, and can impact on other workers' safety.

For more information, see our guidance:

- Impairment and testing for drugs at work
- Fatigue

Appendix 8: Site-specific safety assessment

A site-specific safety assessment should consider, but not be limited to, the following:

- actions to take during fire, explosion, incident or another emergency situation
- any unique or unusual characteristics of the site
- exposure to hazardous materials and substances
- potential for eye injuries from cutting, welding, dust and debris
- potential for injuries due to lifting or carrying heavy objects and tools
- potential for noise induced hearing loss
- public safety
- safe entry to each place of work
- safe exit from each place of work – including escape routes
- system/s in place for regular scheduled contact with isolated, lone or remote workers
- the make and type of lift, escalator or moving walkway
- whether all machines are guarded appropriately
- whether lockout and tagout processes are in place
- whether the area is accessible only to authorised people
- whether the electricity can be turned off for the duration of the work
- whether the work involves working at height or in confined spaces.

Appendix 9: Asbestos – recommended safe work practices

Safe work practices will help to protect workers and other people from exposure to asbestos fibres. These may include:

- cleaning work areas and tools thoroughly
- isolating the work area to prevent access by others
- keeping dust down, for example by using plastic sheets to cover the work area – this will help stop the spread of dust and make cleaning up easier
- restricting power tool use unless the use of the equipment is controlled (for example, the power tool is enclosed while being used
- using the right PPE, such as suitable RPE. Not all masks will protect workers from asbestos – seek advice if unsure what type of RPE is suitable.

For more information, see our guidance Asbestos

Appendix 10: Lifts – recommended safe work practices

All work health and safety risks need to be managed in accordance with HSWA and relevant regulations. This appendix outlines our expectations about how to manage risks when working with lifts.

- The safe work practices outlined in this section should be read together with the related content in the main section of these guidelines, to ensure that all risks are identified and managed.
- These safe work practices reflect good practice. You can carry out work using different practices, but the practices must achieve or exceed the same levels of safety provided by the practices described below.

Warning sign required for prescribed electrical work (PEW)

The Electricity (Safety) Regulations 2010 require this sign to be in place when PEW is being carried out.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
Working in the lift shaft	
Common risks	Work should not start until all risks have been identified, assessed, and either eliminated or minimised so far as is reasonably practicable. Risks to be managed may include: – being struck by a falling object – electric shock – inadequate lighting – lone work – tripping hazards – working at height – working in a confined space.
Unauthorised people	Unauthorised people should not be allowed to access the lift shaft at any time.
Before work starts in the shaft	Before starting work in the lift shaft: – perform a risk assessment of the environment – identify what control measures need to be in place to eliminate or minimise the risks identified – lockout and tagout, so far as is reasonably practicable. Confirm that: – two independent safety devices (such as the emergency stop switch and the door switch) are in place and functioning – working conditions in the lift shaft are suitable for work to take place (for example, temperature and lighting).
Landing doors	It is good practice for landing doors to remain closed to prevent people or objects falling into the lift shaft. If landing doors need to be open: – put secure barriers in place – barrier systems should be between 900mm and 1100mm in height with a mid-rail and a toe board, or be a solid enclosure – display warning signs stating that access is restricted to authorised people only – fix a portable device (such as a wedge) within the lift shaft to restrain a landing door from opening or closing within 75mm of the closed position. If the shaft entrance cannot be secured, a barrier the full width of the entrance should be put in place. If a worker needs to move away from the open shaft, close and secure the shaft entrance immediately.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
Working in the lift shaft	Before entering the lift shaft, plan how to safely enter and exit the shaft. While a worker is working in the shaft, there should be no other work taking place unless it is directly related to the work that the worker is carrying out. No more than two workers should be in the lift shaft at any time. If the work requires more than two workers, or multiple work groups, the installation manager or service manager should provide written authorisation for the work to take place. Critical work sometimes needs to take place with the lift car operating while work is being carried out beneath it. A full risk assessment must be undertaken, recorded, discussed and agreed to by all parties. Use an approved unlocking device or access key switch to unlock landing doors and enter the lift shaft. The lift car should first be positioned a safe distance away from its normal position at a landing.
Power supply for lift shaft work	Before opening the landing doors to enter the lift shaft, decide whether power is needed. If power is not needed: – turn off the main switch, or – remove the fuses and store them securely. Then attach appropriate lockout and tagout devices to: – the main switch, or – the fuse carrier, if the fuses are removed. Live fuse carriers should be protected from accidental contact.
Working under a counterweight	Work must not take place under a lift counterweight unless there are control measures in place to prevent the counterweight from falling.
Working on the lift car top	**Car top inspection** If inspections need to be carried out from the car top, fit a car top control station. The station should have both a common button and direction buttons wired so that both buttons need to be depressed to operate the car. Check for correct operation before work begins. Down travel is safer than up travel. **Power requirements** Before accessing the car top, decide whether power is needed. If power is not needed: – turn off the main switch, or – remove the fuses and store them securely. Then attach appropriate lockout and tagout devices to: – the main switch, or – the fuse carrier, if the fuses are removed. Live fuse carriers should be protected from accidental contact. If the work requires power to operate the lift car, run the lift in inspection mode only. **Car top access** Make sure that the car top is of adequate strength: – to support the worker/s and the required tools and equipment, and – to provide a safe work platform. If the car top is not of adequate strength, it should be clearly labelled ‘No Access’. If access to the car top is required: – take control of the car by activating two independent safety devices – make sure the car top stop switch is functioning correctly – check the car top is clean and dry, with no slippery substances or surfaces – place tools and equipment away from the edge of the car top – keep body well inside the limits of the lift shaft to avoid: - contact with adjacent lifts - contact with counterweights – be aware when and how the car is to be moved – only one person should be in control of moving cars – have a process so that people working together in the lift shaft can communicate with each other.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
	Driving upwards Avoid driving the car upwards when operating from the car top. If driving upwards is necessary, identify and be aware of all potential trap points - including landing sills, toe guards, brackets and switches. **Lighting** Make sure that lighting in the lift shaft and on the car top is adequate for the work. **When car top work is complete** – remove all tools and equipment from the top of the car – leave the top of the car clean and tidy – return the lift to normal service.
Working in the pit	
Common risks	Work – even short duration activities such as retrieval of dropped objects – should not start until all risks have been identified, assessed, and either eliminated or minimised so far as is reasonably practicable. Risks to be managed may include: – being struck by a falling object – electric shock – inadequate lighting – lone work – risks associated with the retrieval of dropped objects (including items such as tools, keys, money or mobile phones) – tripping hazards – unsafe or missing pit ladders – working at height – working in a confined space.
Before starting work in the pit	A worker can only enter the pit when the lift has been shut off. For example: – where reasonably practicable, lockout and tagout the lift before work begins. If power is not needed: – turn off the main switch, or – remove the fuses and store them securely. Then attach appropriate lockout and tagout devices to: - the main switch, or - the fuse carrier, if the fuses are removed. Live fuse carriers should be protected from accidental contact. OR Take control of the lift by using two independent safety devices, such as: – activating the stop switch, and – opening the door lock. Before starting work in the pit, the worker should check that all stop switches are working. There should always be two separate and independent ways of stopping the lift car. If either one of the two independent safety devices are found to be inoperative, workers should not enter the pit until safe access has been established. Where a stop, or safety, switch is found to be in an operational, serviceable and safe condition but of a type not currently accepted as best practice, consider replacing and upgrading that switch. If more than one stop switch is present, they should be wired in series so that one switch cannot override the other when it is in the off position.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
Entering and exiting the pit	**Emergency stop switch** All pits should have at least one emergency stop switch that is easily accessible from the pit access. Put in place a process for entering and exiting the pit, including safe methods for: – verifying control of the car before entering the pit – moving the car away from the pit, and – maintaining control of the car until the worker has exited the pit safely. **Mechanical props** If mechanical props are required, they must be erected before entering the pit. **Pit stop switch** A PCBU must ensure the safety of workers carrying out work in their building. A PCBU with management or control of the workplace could be asked to: – install an additional pit stop switch, or – reposition an existing switch.
Lift pit working conditions	**Working safely in the pit** Always let other workers know when a lift car is, or will be, moving up or down. To prevent anyone getting into the lift or falling into the pit, place suitable barriers and warning signs in front of every access point. **Keep pit clean and dry** The lift pit should be kept clean and dry. This will help to prevent the risk of electric shock, as well as the risk of slips. **Wet pits** If the pit is wet, where practicable water should be removed and the pit dried out before any work takes place, including pit inspections. Always isolate the power before entering a wet pit. **Lighting and the position of light switches** The lighting level in the pit should be suitable for the work to be done. All lighting should be protected against mechanical damage. All lighting circuits and bulbs should work. If the lighting switch is co-located in the pit with the emergency stop switch, the two switches should be clearly identified and separately positioned so that they cannot be confused. **Portable electrical equipment** Use RCDs for any portable electrical equipment, including portable lighting.
Hydraulic lifts	When working under a hydraulic lift: – the lift should be landed on a support that will prevent accidental downward movement, and – the support should be in position before work starts. Clearly display a sign that warns workers that the support should be in position before work starts. The sign should be visible from the access point to the pit.
Entry and exit of lift car/lift car top or riding a moving car	Put in place safe procedures for: – entering and exiting the lift car – taking and verifying control of the lift car before getting on top of it – maintaining control until the work has finished and the worker has safely left the car. **Exiting the car top** To exit the car top safely: – stop the car at a suitable height and step carefully onto the landing – activate the car top stop switch – check that all tools, keys, rags and any other equipment have been removed – open the landing doors slowly to prevent anyone entering from the landing – put the car back into service

TOPIC	RECOMMENDED SAFE WORK PRACTICES
	– exit the car top – release the stop switch – close the landing doors – check normal service. **Counterweights** Be aware of the position of all counterweights. Workers should be protected from counterweights and any other moving equipment near the work area. **Fall hazards** Where practicable, guardrails should be in place on all car tops to prevent falls. Make sure that the car top is of adequate strength: – to support the worker/s and the required tools and equipment, and – to provide a safe work platform. If the car top is not of adequate strength, it should be clearly labelled 'No Access'. **Riding a moving car** To reduce the possibility of falling while riding a moving car, the worker should: – always position themselves near the centre of the car away from moving parts, and – consider holding onto the crosshead. **Other risks/hazards** Where practicable, workers should not: – hang a light or other equipment from the hoist ropes – hold onto the ropes, sheaves or sheave guard – slide, swing or climb on cables, ropes or guide rails – stand or sit on the crosshead when the car is moving – store anything on top of the car – turn the elevator to normal service when working on the car top – wear anything that could catch or tangle (such as a scarf or other loose clothing) while on top of a moving car.
Returning the lift to normal service	After maintenance or other work in the shaft has been completed, confirm that all workers, tools and equipment are out of the shaft before returning the lift to normal service.
Running platforms and false cars	Running platforms or false cars: – may be used for work in the lift shaft during construction and on some modernisation job – should be assembled at the lowest floor available – should only be built and operated by competent people who have been authorised to do the work – should use an audio-visual alarm while in operation – should be checked daily in line with manufacturers' instructions – and the results should be recorded. **Working load limit** The working load limit of the running platform or false car should be clearly visible on the car or platform and in the user instructions. **Shaft entry during construction** Only workers who are trained and competent, or those adequately supervised, should be able to enter the shaft during construction. Before landing doors are installed, the entrance to the lift shaft should be fully protected and always locked when not working directly from the landing. This will help to prevent untrained workers or other people entering the shaft. **Safety mechanisms** Test the following safety mechanisms every day before work begins. – Control mechanisms should have positive pressure buttons to prevent accidental operation. – Running platforms should have a governor cable installed, with permanent safety systems operational. – False cars should be equipped with functional redundant safety systems or fall-arresting equipment.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
Working in the machine room	
Common risks	Work should not start until all risks have been identified, assessed, and either eliminated or minimised so far as is reasonably practicable. Risks to be managed may include: – electric shock – inadequate lighting – lone work – machinery-related hazards – noise – tripping hazards – working in a confined space.
Access and working conditions	There should be safe access to the machine room. Unauthorised people should not be able to access the room. The machine room should have: – adequate lighting and ventilation – appropriate guards on rotating machinery and electrical equipment – a minimum number of holes in the machine room floor, with guards over any openings to prevent objects falling through – a clean floor, with no oil or debris.
Electrical schematics	There should be accurate electrical schematic diagrams for all installations. If any changes are made to circuitry or software, the PCBU that modifies the equipment: – should make sure that the person making the changes accurately records all changes to the circuitry or software – should clearly indicate these changes inside the lift control panel (for example, on electrical schematic diagrams). See Section 3.10 of these guidelines: Modifications to circuitry and software.

PPE

PPE is only used when other control measures alone cannot adequately manage the risk. PPE includes items such as protective helmets, hi-vis clothing, ear protection, eye protection, and RPE.

PPE should not be the first or only control measure considered.

Only consider PPE after taking all other reasonable steps to eliminate or minimise risks.

We expect the first choice to be control measures that protect multiple at-risk workers at once.

The GRWM Regulations cover the provision, use, and maintenance of PPE. There are also standards that PPE should meet.

For more information, see our guidance:

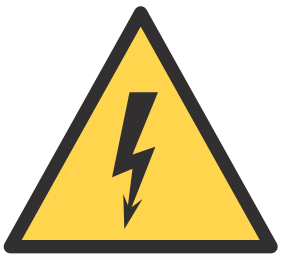
- Personal protective equipment (PPE)
- Personal protective equipment – a guide for businesses
- Safe use of machinery
- RCD safety information
- Electrical safety on small construction sites
- Working at height

Appendix 11: Escalators and moving walkways – recommended safe work practices

All work health and safety risks need to be managed in accordance with HSWA and relevant regulations. This appendix outlines our expectations about how to manage risks when working with escalators and moving walkways.

The safe work practices outlined in this section should be read together with the related content in the main section of these guidelines, to ensure that all risks are identified and managed.

These safe work practices reflect good practice. You can carry out work using different practices, but the practices must achieve or exceed the same levels of safety provided by the practices described below.



Warning sign required for prescribed electrical work (PEW)

The Electricity (Safety) Regulations 2010 require this sign to be in place when PEW is being carried out.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
Working on an escalator or moving walkway	
Common risks	Work should not start until all risks have been identified, assessed, and either eliminated or minimised so far as is reasonably practicable. Risks to be managed may include: – being struck by a falling object – electric shock – heat/high temperatures – for example, from a motor or gearbox – inadequate lighting – lone work – slipping – including on grease or oil – tripping – working at height.
Removing an escalator or moving walkway from service	Have a clear process for removing an escalator or moving walkway from service. The process should involve two people. Where reasonably practicable: – lockoff or tagout the escalator or moving walkway before work begins – confirm that nobody is on the escalator or moving walkway before stopping the equipment – put up barriers at entry and exit points to prevent unauthorised people from accessing the work area – put appropriate and clearly visibly safety signs on the barriers.
Working in the truss (upper/ lower landing and inclined section)	If work is required inside the truss: – eliminate the risk of uncontrolled movement of any part of the equipment – to enter and exit the truss frame, use a temporary walkway or temporary work platform (for example) – install fall protection if a balustrade is not in place – use two independent means to prevent movement on the step chain – for example, a machine brake and an auxiliary brake – do not: - wear anything that could catch or tangle in equipment - carry tools in pockets.
	Activate the step band lock device. – If there is no step band lock device, follow the equipment-specific instructions, or use rated lifting slings and shackles. The slings must be fitted so that there is no free movement of the sprocket wheel or step band. – If there are no equipment-specific instructions available, carry out equipment-specific risk assessment. – The step band must be secured using the method described in the risk assessment.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
	Inspection controls The escalator or moving walkway should only be operated by inspection controls unless a risk assessment has been completed and the risks can be managed.
	If escalator steps removed When one or more escalator steps are removed, do not: – ride the escalator – walk on step-axles.
	The machine should be marked with direction indicators, for safe use during manual operation.
	Use lifting tools to remove removable or hinged floor plates.
Working in the pit (lower landing)	The pit should have: – an emergency stop switch which is easy to access from both the entry to the pit and the pit floor. If more than one switch is present, they should be wired so that one cannot override the other when it is in the off position – adequate lighting to ensure safe entry and exit, and safe working conditions – control switches located close to each access point.
Electrical hazards	Protect live metal parts to prevent electric shock. **RCDs** RCDs: – monitor the electrical currents in a building or device, and – switch off the supply when an abnormality is detected. RCD protection minimises the risk of serious electric shock, however it does not eliminate that risk: – all electrical outlets should have RCD protection – hand-held/portable appliances and tools, light sources and other electrical equipment must also be RCD-protected. Test RCDs before each use.
Working on the controller	Where reasonably practicable, the controller should be designed so that it can be serviced outside the truss. If the controller cannot be removed, develop written procedures to enable safe working conditions. Before working on the controller: – place a sign on the controller to indicate that the equipment is 'out of use' – provide a clear path in front of the controller – secure the control cabinet to prevent it from tipping. Then: – remove the controller from the truss using a mechanical lifting device, and – position it at floor level. The positioning requirement should be clearly indicated on the controller. Keep the control panel cover closed when not working on the controller.
Heat hazards	Place warning signs or other symbols on machinery that can reach high temperatures, such as the motor and gearbox. Avoid contact with objects or materials that may generate heat/high temperatures.
Returning to service	Make sure that the equipment is in safe condition before returning it to normal service. Test run the equipment by running at least two complete turns in both directions. Remove all signs and barriers.

TOPIC	RECOMMENDED SAFE WORK PRACTICES
Working in the machine room	
Common risks	Work should not start until all risks have been identified, assessed, and either eliminated or minimised so far as is reasonably practicable. Risks to be managed may include: – electric shock – fall hazards – heat/high temperatures – for example, from a motor or gearbox – inadequate lighting – lone work – machinery-related hazards – noise – slipping – including on grease or oil – tripping hazards – including debris – working in a confined space.
Working in the machine room	Before work starts in the machine room, check that: – an emergency stop switch is installed – there is a safe way to access equipment – a guardrail is in place to protect the access opening (if there is a risk of falling during work in the machine room) – the floor has no oil, grease, debris or other objects or material that could cause a slip, trip or fall – the room has adequate lighting.
Electrical hazards	Accurate electrical schematic diagrams for all installations should be available at the site: – any changes made to circuits should be recorded by the person who made the change. Protect live metal parts to prevent electric shock. **RCDs** RCDs: – monitor the electrical currents in a building or device, and – switch off the supply when an abnormality is detected. RCD protection minimises the risk of serious electric shock, however it does not eliminate that risk: – all electrical outlets in the machine room should have RCD protection – hand-held/portable tools and appliances, light sources and other electrical equipment must also be RCD-protected. Test RCDs before each use.

PPE

PPE is only used when other control measures alone cannot adequately manage the risk. PPE includes items such as protective helmets, hi-vis clothing, ear protection, eye protection, and RPE.

PPE should not be the first or only control measure considered.

Only consider PPE after taking all other reasonable steps to eliminate or minimise risks

We expect the first choice to be control measures that protect multiple at-risk workers at once.

For more information, see our guidance:

- Safe use of machinery
- Electrical safety on small construction sites
- Personal protective equipment (PPE)
- RCD safety information

Notes

Disclaimer

This publication provides general guidance. It is not possible for WorkSafe to address every situation that could occur in every workplace. This means that you will need to think about this guidance and how to apply it to your particular circumstances.

WorkSafe regularly reviews and revises guidance to ensure that it is up-to-date. If you are reading a printed copy of this guidance, please check worksafe.govt.nz to confirm that your copy is the current version.

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WORKSAFE
Mahi Haumaru Aotearoa

Level 6, 86 Customhouse Quay
PO Box 165, Wellington 6140
0800 030 040 worksafe.govt.nz